

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Thomas G. Wiseman on December 10, 2010.

The application has been amended as follows:

Claim 5 has been amended as follows:

Claim 5 (Currently amended) A showerhead that supplies a source gas and a supporting gas into a vacuum atmosphere in a processing vessel, so as to deposit a film on a surface of an object to be processed in the processing vessel, comprising:

a showerhead body provided with a gas jetting surface facing an inside of the processing vessel;

a first diffusion chamber formed in the showerhead body to receive the source gas and diffuse the same;

a second diffusion chamber formed in the showerhead body to receive the supporting gas and diffuse the same;

a plurality of source-gas jetting orifices formed in the gas jetting surface to be communicated with the first diffusion chamber; and

a plurality of first supporting-gas jetting orifices formed in the gas jetting surface to be communicated with the second diffusion chamber, and

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a plurality of second supporting-gas jetting orifices formed in the gas jetting surface to be communicated with the second diffusion chamber;

wherein each of the source-gas jetting orifices is adjacently surrounded by at least ~~two~~ four of the first supporting-gas jetting orifices so that the at least ~~two~~ four of the first supporting-gas jetting orifices are arranged around the corresponding source-gas jetting orifice at equally spaced intervals about the corresponding source-gas jetting orifice,

a combination of the corresponding source-gas jetting orifice and the at least ~~two~~ four of the first supporting-gas jetting orifices forms a jetting orifice unit, and

each of the second supporting-gas jetting orifices is arranged between adjacent two of the jetting orifice units.

Claim 11 has been amended as follows:

Claim 11 (Currently amended) A film deposition apparatus that deposits a film on a surface of an object to be processed, by using a source gas and a supporting gas, comprising:

a processing vessel;

an evacuation system that evacuates an inside of the processing vessel to form therein a vacuum;

a table provided in the processing vessel to dispose thereon the object;

a heater that heats the object disposed on the table; and

a showerhead provided on a top part of the processing vessel; the showerhead including:

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a showerhead body provided with a gas jetting surface facing an inside of the processing vessel;

a first diffusion chamber formed in the showerhead body to receive the source gas and diffuse the same;

a second diffusion chamber formed in the showerhead body to receive the supporting gas and diffuse the same;

a plurality of source-gas jetting orifices formed in the gas jetting surface to be communicated with the first diffusion chamber; and

a plurality of first supporting-gas jetting orifices formed in the gas jetting surface to be communicated with the second diffusion chamber, and

a plurality of second supporting-gas jetting orifices formed in the gas jetting surface to be communicated with the second diffusion chamber;

wherein each of the source-gas jetting orifices is adjacently surrounded by at least ~~two~~ four of the first supporting-gas jetting orifices so that the at least ~~two~~ four of the first supporting-gas jetting orifices are arranged around the corresponding source-gas jetting orifice at equally spaced intervals about the corresponding source-gas jetting orifice,

a combination of the corresponding source-gas jetting orifice and the at least ~~two~~ four of the first supporting-gas jetting orifices forms a jetting orifice unit, and

each of the second supporting-gas jetting orifices is arranged between adjacent two of the jetting orifice units.

2. The following is an examiner's statement of reasons for allowance: The

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showerhead as claimed in total in claims 1 and 5; and the film deposition apparatus as claimed in total in claims 9 and 11 were not found in or suggested by the art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrie R. Lund whose telephone number is (571) 272-1437. The examiner can normally be reached on Monday-Friday (9:00 am -5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Jeffrie R. Lund/
Primary Examiner
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JRL
12/11/2010